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Technical Report 70-102

Selection and Training for Small Independent Action Forces: System Analysis and Development of Early Training

by

Joseph A. Olmstead and Theodore R. Powers

HumRRO Division No. 4

September 1970

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HumRRO Division No. 4
Fort Benning, Georgia

HUMAN RESOURCES RESEARCH ORGANIZATION

Technical Report 70-102

The Human Resources Research Organization (HumRRO) is a nonprofit corporation established in 1969 to conduct research in the field of training and education. It is a continuation of The George Washington University Human Resources Research Office. HumRRO's general purpose is to improve human performance, particularly in organizational settings, through behavioral and social science research, development, and consultation.

FOREWORD

This report describes activities performed by Human Resources Research Organization staff members during the first phase of a project whose objective is the development of procedures for selecting and training personnel to serve in Small Independent Action Forces (SIAF). The project is being conducted by HumRRO for the Advanced Research Projects Agency of the Department of Defense. This report describes the analysis of SIAF operational requirements, the identification of job-relevant activities of SIAF personnel, and the development of training for certain "Identified Critical Areas."

The work on Phase I of the project was begun in December 1969 and completed in July 1970. It was conducted by HumRRO Division No. 4, Fort Benning. Georgia, with Dr. T.O. Jacobs, Director of Division No. 4, and Dr. Joseph A. Olmstead as Co-Principal Investigators. Mr. Theodore R. Powers supervised the systems analysis. Other staff members were COL Arthur J. DeLuca, Ret., LTC Frank L. Brown, Ret., LTC Fred K. Cleary, Ret., and LTC George J. Magner, Ret.

The work was performed under ARPA Order 1257 and was monitored by the U.S. Army Missile Command under Contract Number DAAHO1-70-C-0488.

SUMMARY AND CONCLUSIONS

PROBLEM

Small Independent Action Forces (SIAF) are U.S. or Allied small combat elements designed to carry out operations independent of parent units in insurgency environments. When they are appropriately organized, equipped, and trained, small independent action forces possess capabilities to perform a variety of critical functions. However, such units operate under arduous and stressful conditions. Expert performance in demanding skill areas under extreme physical and psychological stress is a common requirement, and success of missions frequently depends upon high levels of individual and team performance. Human factors considerations play a major role in the performance of SIAF units and, accordingly, effective procedures for selecting and training personnel to serve in such units are of vital importance.

This report describes activities performed by the HumRRO staff during the first phase of a project whose overall objective is the development of procedures for selecting and training personnel to serve in SIAF units. Phase I of the project includes analysis of SIAF operational requirements, the identification of job-relevant activities of SIAF personnel, and the development of training programs for "Identified Critical Areas."

APPROACH

The approach in Phase I was to systematically analyze the predicted operational missions of SIAF units and to develop training in the Identified Critical Areas for early delivery to the sponsor. In this analysis, discriminable types of missions were identified and a profile was developed for each mission type describing it in terms of a set of common dimensions. After the Mission Profiles were developed, all activities required to perform each type of mission were identified and grouped into "Activity Areas"—classes of related activities grouped together logically. For each Activity Area, a Task Inventory was developed—a detailed listing of the performances required for the accomplishment of the activity. Task Inventories will serve as bases for derivation of required knowledges and skills in Phase II of the project.

"Identified Critical Areas" are Activity Areas in which previously collected data have indicated training is presently inadequate for developing the performance capabilities required in operations characteristic of SIAF units, and in which training could be developed early in the project. Pursuant to a sponsor requirement, training materials were developed early for Land Navigation; Delivery of Indirect and Aerial Fire Support; Use of Camouflage, Cover, Concealment, and Stealth; Human Maintenance; Fundamentals of Tracking; and Communications.

RESULTS

The mission analysis resulted in seven Mission Profiles, all similar in some respects but also differing in one or more significant characteristics. Strongest differentiating factors were (a) purpose of the mission, (b) distance traveled, (c) frequency of reconnaissance and combat activities, and (d) use of indigenous personnel. Furthermore, geographical areas, defined by distance from parent units, were identified for typical SIAF units and relevant functions in each area were noted.

Thirty-two Activity Areas were found to include all of the activities performed in SIAF units. Twenty-three areas were common to all missions and all jobs, three were common to all missions and all jobs but were sometimes performed by skilled specialists, for example, Medical Specialist, and six areas were found to be unique to certain types of missions but common to all jobs within these missions. Twenty-seven Task Inventories were developed from the Activity Areas.

For each Identified Critical Area, a Program Description was developed. Each Program Description includes a listing of terminal training objectives to be accomplished, a list of knowledges and skills to be developed for attainment of the terminal training objectives, and a schedule of training which includes subjects to be taught, sequence of presentation, time allocations, and methods of instruction to be used. Also included are discussions of general considerations, program objective and scope, training rationale, design of the training, training notes, training facilities, and references.

CONCLUSIONS

(1) The findings that resulted from the analysis of missions permit a more precise specification of "typical" SIAF activities and environments, as well as a clear-cut delineation of the types of missions that are usually performed by SIAF units.

(2) The Mission Profiles and Task Inventories developed from analysis of the SIAF system provide an advanced point of departure for the development of knowledges and skills, performance standards, and personnel selection and training procedures, to be accomplished by the HumRRO staff members in Phase II of the project.

(3) The Program Descriptions that were developed for Identified Critical Areas provide the bases for efficient, economical, and effective training in these areas and will serve as prototypes for additional training materials to be developed in Phase II.

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INTRODUCTION

This report describes activities performed during the first phase of a project whose overall objective is the development of procedures for selecting and training personnel to serve in Small Independent Action Forces (SIAF). Phase I of the project includes the analysis of SIAF operational requirements, the identification of job-relevant activities of SIAF personnel and the development of training programs for certain "Identified Critical Areas."

PROBLEM

Small Independent Action Forces are U.S. or Allied small combat elements designed to carry out operations independent of parent units in insurgency environments. Throughout history, reconnaissance patrols and small combat elements, operating independently of larger units, have played a vital role in military success. In recent years, the trend toward insurgent, guerrilla, paramilitary, and other unconventional types of warfare places an even greater premium upon the utilization of operations to be executed with a minimum exposure of friendly troops by carefully selected, highly trained, and adequately supported small units. The potential value of such units is further enhanced by developments in military technology as they pertain to communications equipment; image-intensification devices, and other types of sensors; helicopter and parachute transportation; indirect fire weapons, including a wide assortment of ammunition for mortars, artillery, and naval gunfire; armed helicopter support; and close tactical air support. These developments make it possible to place at the disposal of small independent forces degrees of mobility, capabilities for intelligence gathering and target acquisition, and volumes of firepower that far exceed the resources available even to combat battalions in the not too distant past.

When they are appropriately organized, equipped, and trained, small independent action forces possess capabilities to perform a variety of critical functions. However, such units operate under both arduous and stressful conditions. The common requirement is for expert performance in demanding skill areas under extreme physical and psychological stress; success of missions frequently depends upon high levels of individual and team performance. For these reasons, human factors considerations play a major role in the performance of SIAF units and, accordingly, effective procedures for selecting and training personnel for service in such units are of vital importance.

RESEARCH PROBLEM

The effectiveness of Small Independent Action Forces may be influenced by a variety of factors both within a unit and external to it. Therefore, it is useful to conceptualize the SIAF as a system consisting of a number of major interacting components or subsystems. Conceptualizing the SIAF as a system makes it possible to identify and analyze all relevant components and contributing factors in order that each may be more effectively controlled. In this way, the critical components and factors may be fixed, studied, and manipulated for maximal effectiveness.

The principal components of the SIAF system are:
- (1) Mission
- (2) Organization
- (3) Operational Tactics and Techniques
- (4) Equipment
- (5) Personnel

It is the purpose of the overall SIAF program to study these components and to determine the best ways of developing and integrating them for maximum effectiveness of the total system. The project whose first phase is discussed in this report is one part of the larger program, and is concerned with the Personnel component—with the determination of performance requirements and the development of selection and training procedures that will produce personnel to fill the requirements.

To be effective, procedures for both selection and training should be based on actual performance requirements. In turn, accurate performance requirements can be determined only from knowledge of characteristics of the system within which performance is to be accomplished, and of the contexts within which the system will function. Therefore, the

Plan of Work for Development of SIAF Personnel Selection and Training

Phase	Type of Activity			
	Systems Analysis	Training Development	Selection Development	Reporting
I	Analyze Missions Analyze Tasks	Develop Early Training in Identified Critical Areas		Technical Report
II	Specify Required Knowledges and Skills Develop Proficiency Measures	Develop Training Objectives Develop Training Program Descriptions	Develop Criterion Measures Identify Predictor Variables and Develop Prediction Instruments Test Predictor Variables Develop Selection Test Battery	Technical Report
III		Develop Composite Training Test	Validate Selection Test Battery	
IV				Final Technical Report

Figure 1

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development of procedures for selection and training of SIAF personnel should rest upon thorough knowledge of the SIAF system and of the environments within which the SIAF can be expected to function.

For this reason, the initial activity in the project discussed in this report is analysis of the SIAF system and determination of relevant characteristics of all components. After analysis of the system, it then becomes possible to determine performance requirements and to develop the appropriate procedures for selection and training.

Accomplishment of the project entails four broad types of activities—(a) Systems Analysis, (b) Training Development, (c) Selection Development, and (d) Reporting. Each activity consists of a number of steps occurring within four phases. Figure 1 shows the plan for the project, including the activities, steps, and the phases within which each will be accomplished.

This report will describe the activities and results of Phase I and will deal with only those systems analysis activities programed for Phase I, and with the early development of training in Identified Critical Areas. Results of Phases II and III will be reported as the work is completed.

Phase I Requirements

Work to be accomplished in Phase I includes (a) the use of government-supplied data for analysis of the IAF system according to types of predicted missions, (b) the use of resulting mission profiles to analyze the various required activities and to develop inventories of tasks to be performed in SIAF units, and (c) the early development of training for certain critical activities for which previous studies have indicated training is presently inadequate.

Analysis of Missions. Accomplishing the first step—the use of government-supplied data to analyze the SIAF system on the basis of predicted mission types—requires development of the following information:

(1) Identification of the various missions to be performed by SIAF units.
(2) Analysis of each mission as a system to identify the major characteristics of the system and to describe the functions of each component and the interactions between the components and between the SIAF and other systems, such as controlling and supporting units.
(3) Specification of the environments of each system.

The mission analysis resulted in working papers that are profiles of the different types of missions performed by SIAF units. The profiles are detailed outlines of the characteristics of the various missions and describe activities of personnel in terms of operational requirements.

Task Analysis. The profiles resulting from the analysis of missions are designed to identify functions performed by SIAF personnel while executing the missions. When identified, the functions can be classified according to "activity areas"—groups of related activities—which can then be studied to determine those activities common to all missions and those unique to certain ones.

Finally, the analysis will yield a set of Task Inventories—detailed and comprehensive listings of all job-relevant activities of SIAF personnel. In Phase II, Task Inventories will provide the basis for identification of the critical knowledges and skills required for performance of SIAF duties.

Early Training in Identified Critical Areas. HumRRO has collected data based on post-action interviews with army personnel in Vietnam,[1] including personnel engaged in

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[1] George J. Magner, "Interviews on Small-Unit Combat Actions in Vietnam (U)," HumRRO Interim Report with Annexes A-K, July 1967 (For Official Use Only); from Work Unit ACTION, Research for Improvement of Infantry Stability Operations Training.

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long-range patrolling. The data indicate certain activities in which present training is inadequate for developing the performance capabilities required in operations characteristic of SIAF units. These are activity areas in which improved training is obviously needed and could be implemented as soon as program materials are available.

Accordingly, the sponsor has requested that training in these *Identified Critical Areas* be developed early in the sequence and be made available at the completion of Phase I. The requirement stipulated that content areas in which training is to be developed early will include, but not necessarily be limited to, Land Navigation; Delivery of Indirect and Aerial Supporting Fire; Human Maintenance and Survival; Use of Camouflage, Cover, Concealment, and Stealth; and Tracking.

The product is to be a Program Description for each activity, or content, area. Each Program Description will include terminal training objectives, listings of the knowledges and skills to be developed, recommended subject schedules (including topics to be taught, time allocations, and references), and methods of instruction.

Thus, improvement in training in Identified Critical Areas need not await development of the complete SIAF training program, and adherence to a modular concept in developing the materials will enable insertion of the early developed modules into the larger training system when it is finally completed.

METHOD

The approach in Phase I was to systematically analyze the predicted operational missions of SIAF units—to include organization, operational techniques and tactics, equipment, and personnel—and to develop training in the Identified Critical Areas for early delivery to the sponsor. Systems analysis techniques were used to specify required activities for all personnel and to identify both common and unique elements among the activities. In Identified Critical Areas, performance requirements were determined, and systems engineering procedures were used to derive training objectives based on identified knowledges and skills and to develop training materials specifically designed for accomplishing the objectives.

SOURCES OF DATA

The two general sources of information for the systems analysis were (a) documents that report, describe, or discuss activities of small units that operate independently, and (b) interviews with representatives of U.S. and Allied agencies and units that have used small teams in operations similar to those conceived for SIAF and with selected individuals who have served with such teams.

Documentary Sources

Documents that were surveyed included:
(1) Classified reports obtained from a variety of sources.
(2) Official publications (field manuals, etc.) pertinent to operations and training of small teams and patrols.
(3) Accounts and discussions of small-unit operations and organization that appeared in publications such as *Infantry* and *Army*.
(4) "Characteristics of SIAF-Type Operations in Vietnam" (U), SIAF Report No. 8, The Vertex Corporation, 25 December 1969 (CONFIDENTIAL).
(5) "Interviews on Small-Unit Combat Actions in Vietnam" (U), HumRRO Interim Report with Annexes, July 1967 (For Official Use Only).

Interview Sources

During the period 1 December 1969—1 March 1970, HumRRO personnel visited U.S., British, and Australian installations to obtain information concerning (a) SIAF missions, organization, operations, and techniques and (b) current practices in the selection and training of personnel. (The installations visited are listed in Appendix A.)

Prior to each visit, appropriate personnel were informed of the purpose of the visit and were provided an outline of topics on which information was desired. To insure uniform and complete coverage of topics, an "Interview Outline" was used for the conduct of all interviews. (The outline is given in Appendix B.)

All briefings and interviews were tape-recorded and were later transcribed. These, together with interview notes, trip reports, and documents supplied by the agencies visited, provided complete permanent records for analysis.

ANALYSIS OF MISSIONS

The initial step in the analysis of the SIAF system was to define typical missions for SIAF units. The objective was to identify discriminable types of missions and to develop a profile for each mission-type which would describe it in terms of a set of common dimensions. Development of profiles in terms of common dimensions would then permit comparisons between missions and identification of both common and unique activities.

A survey of the available data showed a number of characteristics on which the data could be classified and compared. The list was reviewed and expanded by experienced personnel. The result was the Mission Profile Outline (Appendix C).

Data from all sources were compiled and classified according to the characteristics listed in the Mission Profile Outline. The data were then compared to identify both commonalities and differences. Where missions were similar in all characteristics, they were combined into broader categories.

The eventual result was a number of mission classes having characteristics sufficiently different that they could not logically be further combined. Descriptions of these missions in terms of the characteristics used to classify them are the Mission Profiles.

ANALYSIS OF TASKS

The Mission Profiles describe the characteristics of each discriminable type of SIAF mission. The second step in the systems analysis involved (a) identification of all activities required to perform each type of mission, (b) the grouping of activities into "Activity Areas," (c) determination of commonalities and differences in Activity Areas across mission types and across jobs (positions), and (d) development of inventories covering all tasks included in each of the identified Activity Areas.

Activity Areas are classes of related activities that may be grouped together logically. Mission Profiles were examined to identify specific recurring performance requirements. Related activities, which may have appeared in separate parts of the Mission Profiles, were grouped and categorized within each profile. Each Activity Area was then assessed to determine whether it was common to all profiles or unique to certain profiles. In addition, each area was studied to determine whether it was common to all jobs covered in a profile (e.g., Leader, Assistant Leader, Radiotelephone Operator, Rifleman, Medical Specialist) or whether it was a unique requirement for certain team members. Following this procedure, Activity Areas were classified as "Common/Common," "Common/Common (Specialist)," or "Unique/Common." Classification as "Common/Common"

means that an Activity Area appeared in all Mission Profiles and was also found to be common to all jobs (positions) in each profile. The category of "Common/Common (Specialist)" includes a few areas which, although common to all SIAF jobs at some adequate level of proficiency, may be performed by a specialist who has received extensive formal training in the activity (e.g., Medical Specialist), and who, therefore, possesses knowledge greatly in excess of that held by other team personnel. The "Unique/Common" category identifies those areas that are unique to certain types of missions, but common to all personnel within those missions.

The last step in the definition of Activity Areas was specification of the scope, or limits, of each area in order to specify the range of tasks required for SIAF performance. As an example, Airmobile Procedures was identified as an Activity Area which is common to all Mission Profiles and to all jobs. With regard to scope, however, the question was, "Within the very wide range of complex activities involved in movement by air, what are the specific 'need-to-know' tasks that must be performed by SIAF personnel?" Examination of the Mission Profiles showed that each SIAF member must be proficient in procedures for loading and unloading aircraft (mainly helicopters) used for insertion and extraction, to include the use of rope ladders, slings, and other special techniques devised by airmobile troops. In addition, the team leader must be specially trained to observe from aircraft while in flight to assist him in selecting routes to and from insertion or extraction points and in reconnoitering areas of operations. Thus, the scope, or limits, of activities in the area of Airmobile Procedures was defined. Specification of scopes for Activity Areas was a critical procedure because the scopes define limits for the knowledges and skills to be specified in later steps and, hence, also determine the limits for selection and training procedures.

During the course of the research, 69 different Activity Areas were considered. However, only 32 areas were finally found to be relevant for SIAF operations.

Finally, a Task Inventory was developed for each Activity Area. This detailed list of the performances required for a specific Activity Area serves as the basis for later derivation of knowledges and skills required by SIAF personnel to perform the activities effectively.

Task Inventories were developed for all Activity Areas by scrutinizing the Mission Profiles for statements that indicate specific performance requirements and, then, specifying the detailed tasks necessary to meet each requirement. For example, it was found that various types of hand grenades were routinely employed in specific situations. Therefore, a Task Inventory was developed to cover types of grenades, their procurement, care, and operational use.

After a Task Inventory was developed for each Activity Area, the inventories were examined for duplication, redundancy, and potential for consolidation. After consolidation, the result was 27 Task Inventories.

TRAINING IN IDENTIFIED CRITICAL AREAS

"Identified Critical Areas" are Activity Areas in which previous research under HumRRO Work Unit ACTION, has shown present training to be inadequate for developing the performance capabilities required in SIAF operations and for which training materials can be produced early in the SIAF Selection and Training Project. Pursuant to the sponsor's technical requirement, activity areas in which training was developed early are Land Navigation; Delivery of Indirect and Aerial Fire Support; Human Maintenance; Use of Camouflage, Cover, Concealment, and Stealth; Tracking; and Communications. The area of "Communications" is in addition to the five areas specified in the technical requirement.

Relation to SIAF Training Program

During Phase II of the project, an important activity will be the design of the overall SIAF Training Program. After all required knowledges and skills have been identified, they will be grouped into content areas. At this point, a number of decisions will be made concerning the knowledges and skills to be developed in each training segment, the proper sequencing of segments, assignment of training segments to major components of the program, that is, to General SIAF Training, Special Skill Training, Environmental Training, or Special Mission Training. In short, after all knowledges and skills have been identified, the general design of the SIAF Training Program will be developed and the proper placement of each segment of training will be determined.

Prior to design of the program, the preferred placement of training segments is not known. However, fundamental in the design of the SIAF Training Program is the modular concept of training, which envisions self-contained modules or "training packages," each complete in itself, which can either be superimposed upon basic core training or be put together in "building block" fashion to tailor training programs to specific needs. The fundamental principle is the interchangeability of the modules, permitting great flexibility in training design. Thus, although a general framework, to include sequencing, will be designed and recommended, the principal product will be a set of Program Descriptions, each representing a self-contained module that can be used by trainers in a variety of combinations.

The modular concept makes it possible to develop valid training materials for the Identified Critical Areas prior to design of the SIAF Training Program. Since each module is self-contained, sequencing, and other program design problems, were not limiting for development of early training.

Planning Decisions

It was apparent that the materials developed for training in Identified Critical Areas would, in large part, serve as models for later development of the full SIAF Training Program. Accordingly, a task force—six members of the HumRRO SIAF staff—was constituted to consider a number of issues whose resolution would determine much of the later work.

Content. A first problem concerned content to be included in the Program Descriptions. The technical requirement stipulates that, as a minimum, each Program Description will contain (a) a listing of terminal training objectives for the module, (b) a listing of the knowledges and skills whose development is essential for attainment of the terminal training objectives, and (c) a schedule of training designed to develop the requisite knowledges and skills, the schedule to include subject matter, sequence of presentation, time allocations, and methods of instruction to be used. Each Program Description must satisfy the above specific requirements, as well as other nonspecific requirements, must maximize the value and acceptability of the training that is prescribed, and must insure, to the greatest extent possible, that the training can be conducted as intended.

It was concluded that, in addition to the minimal requirements, each Program Description should include the following:

(1) A brief explanation of the SIAF Training Program.
(2) A glossary of nonstandard terms common to all Program Descriptions.
(3) A glossary of nonstandard terms related to the specific content of the Program Description.
(4) An explanation of the approach to training used in the Program Description.
(5) A statement of the objective of the module.
(6) A statement of the scope of the training.

(7) A discussion of salient points of the training methodology.

(8) A description of the training design that would show the relationship of each knowledge or skill to the appropriate terminal training objectives and periods of instruction.

(9) A discussion of salient points concerned with facilities required for the training.

(10) A listing of references upon which training is based, with explanations to insure understanding by all Services.

Format. A second problem was development of a format for Program Descriptions that could be uniformly applicable to all modules, yet would be sufficiently general and flexible to be appropriate for the variety of content areas that would be included in the final program. Several formats were developed and evaluated. A Program Description was selected consisting of two major parts with sections as follows:

I. A two-section *Foreword* whose content is identical for all Program Descriptions.

    A. General. An explanation of the SIAF Training Program, and the assumption of prior training.

    B. Glossary. Definitions of all nonstandard terms common to all Program Descriptions.

II. A 10-section *Body* with content specific to each Program Description.

    A. Introduction:

        1. General Considerations. An explanation of the necessity of the training in terms of SIAF operational requirements.

        2. Special Glossary. Definitions of nonstandard terms specific to the Program Description.

    B. Program Objective and Scope. A statement of the overall objective of the module, including:

        1. The general proficiency level to be attained, for example, "general knowledge," "working knowledge," or "qualified."

        2. The personnel to be trained, for example, "each SIAF member," "SIAF leaders," or "selected SIAF members."

        3. A statement of the operational tasks in which the general proficiency level will be attained.

    C. Training Rationale. A brief discussion of reasons for the particular methodology and design used in the Program Description.

    D. Training Methodology. A discussion of the prescribed training methods and of procedures for using them, for the purpose of insuring adherence to the prescribed methodology.

    E. Terminal Training Objectives. A list of the training objectives to be accomplished by completion of the module, stated in terms of a task to be performed, conditions under which the task is to be performed, and the performance standard to be attained for the task by end of the training.

    F. Knowledges and Skills. A list of specific knowledges and skills to be developed by the training prescribed in the Program Description.

    G. Training Design. A brief discussion and a figure which will illustrate the design of the module by showing how each knowledge or skill contributes to appropriate terminal training objectives and is developed in one or more periods of instruction.

    H. Schedule of Training.

        1. Schedule of Training. An outline, by period of instruction, of the training to be conducted, to include:

            (1) Period number.

(2) Subject(s) for the period.
(3) Number of hours for the period.
(4) Method(s) of instruction.
(5) Scope of the period.
(6) List of training notes applicable for the period.
(7) List of references applicable for the period.

? Training Notes. Explanations of items appearing in the training schedule.

I. Training Facilities. Instructions or comments concerning facilities required to conduct the training.

J. References. A summary list of references with explanatory comments.

Beginning Level for Training. Another problem was to establish guidelines by which authors of Program Descriptions could determine proper content or performance levels at which training should begin within each module. Since criteria for entry into the SIAF Program will be established in Phase II work concerned with personnel selection, there is, at present, no definitive information regarding prior experience or training of personnel who would participate in the training developed for Identified Critical Areas. However, it seemed reasonable to assume that all individuals entering the program would have received prior training equivalent to U.S. Army Infantry Advanced Individual Training (AIT). This level is sufficiently low so as not to exclude most personnel who would be likely to attend the program, while, at the same time, it precludes the necessity for teaching basic material in every module. Thus, it was decided that training for content areas that are taught in Basic Training or AIT equivalents should begin at the point at which the prior training ended, preceded, where appropriate, by a brief review of fundamentals. On the other hand, for content areas not covered in assumed prior training, instruction should begin with fundamentals.

Training Concepts

Effective performance in SIAF units requires teamwork, quick responses even under heavy fatigue and stress, and ability of personnel to perform a variety of duties. Accordingly, heavy emphasis was placed in training design upon three methodological concepts considered essential for developing the required capabilities.

Pre-Team Sensitization Training. Both research and military experience have shown that genuinely effective team training is a highly complex and usually difficult activity. The training of SIAF personnel to function effectively as a team will receive full consideration in Phase II. However, it has been demonstrated that training not primarily designed to train teams can, when properly conducted, develop within individuals tendencies toward greater cooperation and teamwork, which will carry over to their performance in a team context. Pre-Team Sensitization Training is the inclusion during all training efforts of materials and methods that will emphasize the necessity for teamwork and will develop the individual's ability and motivation to recognize team and team member needs and to provide spontaneous and coordinated assistance as situations demand. Pre-Team Sensitization Training is systematically included in Program Descriptions for Identified Critical Areas and will be included in all training developed in Phase II.

Overlearning. It is vital that each SIAF member meet all mission-critical requirements even under the additional fatigue and stress created by harsh physical conditions and operations in close proximity to or in contact with hostile opposing forces. Accordingly, important emphasis in the training design is placed upon *overlearning*—the repeated performance of critical tasks and skills far beyond the point of established excellence usually required in a training environment. Overlearning insures the almost reflexive responses required of SIAF personnel in emergency situations and also compensates for decrements in performance that often result from severe physical and combat stress.

Cross-Training. In designing the training, heavy emphasis was also placed upon *cross-training,* that is, each SIAF member will be trained to perform tasks required of other personnel, regardless of individual assignment. Cross-training increases teamwork, enhances flexibility of assignments, and enables mission accomplishment despite the occurrence of casualties. In addition, the training of personnel in common skills, as well as in secondary specialties, makes for greater flexibility in the design and training of mission-specific units.

Development of Program Descriptions

According to the plan of work (Figure 1), the development of training materials begins only after the derivation of the knowledges and skills required by SIAF members, a scheduled Phase II activity. However, since the development of training for Identified Critical Areas was required to be completed during Phase I, priority was given to the systems analysis work relevant to those areas.

After the Mission Profiles were developed, a special work group started to develop Activity Areas and Task Inventories and to identify knowledges and skills that were applicable to the Identified Critical Areas. Prior HumRRO research served as the starting point in several areas and reduced developmental time and effort.[2] During the same period, transcripts of the U.S. and Allied interviews, training documents, and research reports were studied to identify relevant training practices already in use. These documents and HumRRO expertise were the basis for development of the training methods that were incorporated into the Program Descriptions. Appendix D presents tables that summarize training currently being provided in subjects related to each Identified Critical Area.

When the list of identified knowledges and skills for an Identified Critical Area was completed, responsibility for development of the Program Description was assigned to that staff member judged to be most expert in the area. The Task Inventory served as the basis for development of tentative Terminal Training Objectives for the module. Terminal Training Objectives are broad statements of performances to be accomplished upon completion of the training and, to be relevant, must encompass the activities described in the Task Inventories.

After development of tentative Terminal Training Objectives, the program writer examined the list of Knowledges and Skills to determine how each contributed to one or more objectives. Since both Knowledges and Skills and Terminal Training Objectives were derived from the Task Inventories, they are logically related and, in effect, the program writer "blocked out" a training design that indicated the knowledges and skills required for the accomplishment of each objective. Related knowledges and skills were then grouped and each group was studied to determine the content and methods that would best accomplish the objectives. The writer constructed a logically sequenced training schedule and, finally, wrote a draft Program Description following the format described earlier.

One problem encountered repeatedly involved references that would be known and readily available to all Services and Allies and would be feasible for use by training personnel. In some areas, such as Land Navigation, excellent standard references are readily available so that all of the included material could be covered by a listing of them. On the other hand, some areas that are critical for SIAF operations, for example, Human Maintenance, are not capably covered in any references that would be normally available. In order to provide trainers with sufficient content to effectively conduct

[2] Frank L. Brown and T.O. Jacobs. *Developing the Critical Combat Performance Required of the Infantry Rifle Platoon Leader,* HumRRO Technical Report 70-5, April 1970, from Work Unit LEAD.

training, it was decided that the knowledges and skills provided for these areas should be sufficiently detailed and descriptive as to serve as content where required.

Draft Program Descriptions were reviewed by project leaders and other staff members, and modifications were incorporated as appropriate. The descriptions were then edited and reproduced.

RESULTS

Development of Mission Profiles, descriptions of Activity Areas, and Task Inventories are intermediate steps in accomplishing the objectives of the project. Accordingly, these documents are working papers and are not published as products. However, their most significant characteristics will be discussed as findings in this and subsequent sections of this report. On the other hand, Program Descriptions for Identified Critical Areas are a part of the required products of the project and are delivered simultaneously with this report. They will be discussed briefly in this and the following sections.

MISSION ANALYSIS

In reviewing the data that were collected, it became apparent that there are basic patterns in many aspects of SIAF operations. Analysis of these patterns showed some discriminable differences upon which Mission Profiles could be developed and also produced some other findings that have direct relevance for selection and training.

Mission Profiles

The principal objective of the mission analysis activity was to develop profiles of representative, or "typical," SIAF missions. Many commonalities appeared among the various mission descriptions and data studied, as well as some wide differences. However, it was eventually found that all of the data could be encompassed in five different profiles. Some of the profiles possess similarities in certain aspects; but, all differ in one or more significant characteristics. Strongest differentiating factors were (a) purpose of mission, (b) distance traveled, (c) ratio of reconnaissance to combat activities, and (d) use of indigenous personnel.

Although each profile is most characteristic of a certain type of unit, most encompass several types within their descriptions. To avoid undue association with a particular type of unit, each profile is designated by a letter. Summaries of the profiles follow:

(1) **Type A.** Missions of this type are characteristically performed by teams organic to conventional TOE units, to include Battalion Reconnaissance Platoons. When functioning in a SIAF role, the teams most commonly are comprised of six men. The teams operate in support of the units to which they are organic and usually operate at less than 6,000 meters from the parent unit, although operations may extend as far as 15,000 meters from base. Several teams may be used in combination. The most common mission is reconnaissance; however, combat roles are sometimes assigned. Information is usually reported to the Battalion Intelligence or Operations Officer. Indigenous personnel are not commonly used in these teams.

(2) **Type B.** Missions of this type are executed by specially organized reconnaissance/combat units manned by specifically trained personnel. The missions are usually in support of a task force, brigade, division, or corps. Teams usually operate from 5,000 to 40,000 meters from supported units. Activities are predominantly reconnaissance, although small-scale offensive operations, for example, ambush of small enemy units, are also employed.

Depending upon the concepts of the particular service involved, practices concerning enemy contact on reconnaissance missions may range widely, from strict avoidance of all contact, if possible, to the specific objective of locating the enemy and bringing effective fire upon him. Five- to nine-man teams perform missions initiated by requesting units. Information is reported by the teams either to operations centers within their own organizations, which relay it to the requesting units, or directly to group or task force operations centers, depending upon the concept of the service involved. Indigenous personnel are sometimes used as scouts or interpreters; however, when used, they comprise a minority of the team.

(3) **Type C.** Missions of this type are performed by specially organized teams of highly trained personnel, usually under control of and supported by Corps, Army, Theater, or equivalent levels of command. Teams may be composed solely of U.S. personnel or may operate with varying ratios of indigenous personnel. Depending upon the level of conflict, as well as the tactical or political situation, the teams may operate at distances ranging from 5,000 meters to 300 kilometers or more from friendly units. While reconnaissance is a principal activity, missions may also involve a variety of combat activities. Reporting of information is to a tactical operations center or group headquarters which relays the information to using agencies.

(4) **Type D.** Missions of this type are performed by combined units composed of both U.S. and indigenous personnel. In some instances, a U.S. team is paired with an equal number of indigenous personnel; however, these ratios may vary in some circumstances. These teams usually operate within 50,000 meters from a parent unit; however, capability exists for operating at much longer distances. Combined combat-reconnaissance missions are predominant, especially target acquisition. Information is reported to the parent unit.

(5) **Type E.** Missions of this type are performed by units specially organized to accomplish a specific purpose. Currently, the most common purpose is Civic Action, although a combat role, such as a night ambush, may be employed in connection with the primary mission. The size of the team varies; but, a common force would consist of one U.S. squad and one indigenous platoon. This force concentrates on Civic Action activities and rarely operates more than 3,000 meters from a parent village. Information is reported to a district headquarters.

Specific Findings

Military units in combat situations normally have responsibility for a particular area even if the responsibility is only momentary due to the continuing movement of the unit. Thus, SIAF-supported units (Battalion, Brigade, Division, Task Force) have various areas of influence, interest, operations, and responsibilities that can usually be defined by their geographical boundaries. Within this larger area, a SIAF unit has a responsibility for an area which, although the borders are usually predetermined, may be fairly unclear in its internal characteristics.

Geographical areas within which SIAF units may operate fall into three categories defined by distance from the parent unit. The first area includes all operations to a distance from the parent unit of about 6,000 meters. Operations normally will be conducted by SIAF teams organic to conventional TOE units. This area is usually covered by artillery and close tactical air support and helicopter gunships are normally on call. Special SIAF units will occasionally operate in this area; however, most operations will be conducted by teams under the control of parent TOE units.

The second area extends from 6,000 to about 30,000 meters from the parent unit. Although organic SIAF teams may enter into the nearest sections of the area, the data indicate that this is mainly an area for specially trained and equipped units. Artillery covers only part of the area and communication is increasingly difficult as distance from the parent unit increases. Reaction time for helicopter gunships and close tactical air support also increases unless the air support is kept on station nearer the possible target area—a practice that may not be economical.

Furthermore, weather becomes a major consideration in the second area. The grounding of aircraft due to weather will leave the SIAF unit without support and will limit the mode of travel for a reaction force to some kind of ground or water transportation. Without support, a SIAF unit that comes into contact with a large enemy force must inevitably break contact and withdraw because it does not normally possess the strength or ammunition to successfully survive such an encounter.

The third area extends from 30,000 meters to 300 or more kilometers. This is most commonly the province of special SIAF units, such as elements of U.S. Army Special Forces. There is no artillery cover and, usually, close tactical air support and helicopter gunships are not readily available. Unless the element operates near an enemy base camp or a supply route, contacts with large enemy units are infrequent. The data indicate that this area is less commonly the site of SIAF operations, depending upon the insurgent phase of operations; however, if an operational requirement exists for such missions, they should be within the capability of a SIAF.

Of course, some overlap exists within the three areas with regard to the types of units that operate therein. There are also important differences in the functions served by SIAF activities in the different areas. Thus, in the first and second areas, the types of enemy contact and the amounts and types of information that are collected are more directly relevant to the immediate activities of the supported unit. On the other hand, in the third area, this relevance diminishes with distance until, at its farthest reaches, it would be coincidental to find much direct, short-term relationship to supported unit activities. One categorization which can be made here is that activities that occur in the first and second areas could be considered to be tactical, while those occurring in the third area would be more nearly strategic in nature.

ACTIVITY AREAS

The next step of the research was development of Activity Areas from the material contained in the mission profiles. Thirty-two Activity Areas were found to be appropriate for SIAF operations. Figure 2 shows these Areas and their relevance for missions and jobs.

TASK INVENTORIES

The final step in Systems Analysis activities for Phase I was the development of Task Inventories. A Task Inventory is a listing of all the performance requirements for a particular area, together with a list of equipment used in performance of the tasks. (An example of a Task Inventory is in Appendix E.)

The result was the development of 27 Task Inventories as listed in Figure 3. The reduction from the 32 Activity Areas occurred for two reasons. First, the separate Activity Areas of Civic Action, Indigenous Language Development, and Training of Indigenous Personnel were combined into a single inventory entitled "Civic Action, Language Development, and Training of Indigenous Personnel" because of the overlap in

Identified Activity Areas According to Mission and Job Relevance

Common/Common [1]
1. Airmobile Procedures
2. General Mission, Organization, and Operations of a SIAF
3. Patrolling
4. Land Navigation
5. Human Maintenance
6. Cover, Camouflage, Concealment, and Stealth
7. Protection Against Mines, Boobytraps, and Warning and Illuminating Devices
8. Delivery of Indirect and Aerial Fire Support
9. Physical Conditioning
10. Maintenance of Clothing and Equipment
11. Use of Image Intensification Devices
12. Code of Conduct/Evasion and Escape
13. Visual, Sound, and Tactual Communications
14. Fundamentals of Tracking
15. Use of Individual Weapons
16. Use of Aerial Photographs
17. Hand Grenades
18. Use of Crew-Served Weapons (Machineguns)
19. Individual Cutting Instruments
20. Observing and Reporting of Combat Intelligence/Intelligence Information
21. Counterintelligence
22. Teamwork
23. Mines (Antitank and Antipersonnel), and Warning and Illuminating Devices

Common/Common (Specialist) [2]
24. Radio Communications
25. Self-Aid, First Aid, and Evacuation
26. Demolitions

Unique/Common [3]
27. Training of Indigenous Personnel
28. Civic Action
29. Airborne Procedures
30. Water Procedures
31. Mountaineering
32. Indigenous Language Development

[1]Common to all Mission Profiles and common to all jobs in each profile.
[2]Common to all Mission Profiles and common to all jobs at some adequate level of proficiency; however, the activity may be performed by a skilled specialist.
[3]Unique to certain Mission Profiles, but common to all jobs within the applicable profiles.

Figure 2

requirements for use of indigenous languages and knowledge of local cultures. Second, the areas of Mountaineering and Water Procedures were not developed as Task Inventories in Phase I because these high-skill areas will require special analyses during Phase II for determination of selection requirements. To avoid duplication of work, it was decided to await development of Task Inventories in these two areas until the Phase II selection effort is begun.

Task Inventories

1. Radio Communication
2. Pre-Team Sensitization and Team/Team Member Needs in Combat
3. Observing and Reporting of Combat Intelligence/Information
4. Fundamentals of Tracking
5. Airmobile Procedures
6. Individual Cutting Instruments and Hand-to-Hand Combat
7. Code of Conduct, Evasion, and Escape
8. Use of Aerial Photographs
9. Protection Against Mines, Boobytraps, and Warning and Illuminating Devices
10. Hand Grenades
11. Use of Individual Weapons
12. Use of Crew-Served Weapons (Machineguns)
13. Mines (Antitank and Antipersonnel) and Warning and Illuminating Devices
14. Demolitions
15. Counterintelligence
16. Self-Aid, First Aid, and Evacuation
17. Land Navigation
18. Civic Action, Indigenous Language Development, and Training of Indigenous Personnel
19. Airborne Procedures
20. Delivery of Indirect and Aerial Fire Support
21. Patrolling
22. Human Maintenance
23. Maintenance of Clothing and Equipment
24. Cover, Concealment, Camouflage, and Stealth
25. Mission, Organization, and Operations of a SIAF
26. Physical Conditioning
27. Use of Image Intensification Devices

Figure 3

In general, the Task Inventories correspond to content areas, as in Land Navigation, although several conceptual areas are also represented, as in Mission, Organization, and Operations of a SIAF. The conceptual areas include tasks that did not appear as such in operational assessments but which, nevertheless, were judged to be essential, such as Leadership and Teamwork.

TRAINING IN IDENTIFIED CRITICAL AREAS

Program Descriptions were developed for the five Identified Critical Areas specified in the sponsor's technical requirement and for one additional area—Communications. The Program Descriptions are the major products of Phase I and, as such, are delivered to the sponsor concurrent with this report. Brief discussions of each module follow.

Land Navigation

Proficiency in land navigation was found to be a critical requirement for all SIAF personnel. By their nature, SIAF operations demand that each individual be able to perform competently all of the map reading-land navigation tasks required in planning, preparing for, and conducting an operation. Accordingly, the prescribed training places

heavy emphasis on practical application and requires each individual in training to perform repeatedly every training requirement, thus enabling him to develop proficiency in using all of the navigational tools routinely available on SIAF missions. The result is a module which consists of 33 instructional periods totaling 85 hours, of which 44 hours are practical exercises in the field. The training methodology provides for monitoring of performance through frequent requirements for personnel in training to record their solutions to specific training problems, for example, determining the magnetic azimuths of the legs of a plotted route or the grid coordinates of specified points on routes. The methodology further prescribes prompt evaluation of solutions and communication of results to trainees. These methods permit highly individualized instruction and the early identification of inadequacies so that counseling and remedial training can be provided where required.

Delivery of Indirect and Aerial Fire Support

The training prescribed in this Program Description is designed to provide all SIAF members with the capability of rapidly obtaining and adjusting supporting fire under extremely difficult field conditions. Since a SIAF must utilize fire support from all available sources, training includes the employment of both indirect fire (mortars, artillery, and naval gunfire) and aerial fire support (armed helicopters and fixed wing aircraft). Instruction concerned with these various types of fire support is combined into one Program Description to assist SIAF personnel to clearly understand how the fires from these sources can be coordinated to provide the most effective total support.

The training is tailored to the special needs of the small patrol and emphasizes practical exercises—especially live fire in the field under realistic conditions. The result is a module consisting of 10 periods of instruction which require 28 hours for completion. Included are 19-1/2 hours of practical exercises.

Use of Camouflage, Cover, Concealment, and Stealth

The successful conduct of SIAF operations demands a higher level of individual and team proficiency in the use of camouflage, cover, concealment, and stealth than is required in more conventional activities. Accordingly, the training in this Program Description is designed to develop "working knowledge," that is, the capability of performing competently with normal leader direction and supervision, with additional development to occur by integration of specific camouflage, cover, concealment, and stealth requirements into other tactical modules, for example, Patrolling, of the SIAF Program.

The training prescribed is based on the premise that the proficient application of knowledges and skills pertaining to camouflage, cover, concealment, and stealth is best obtained through a training environment that requires the individual to view his actions in this area as integral parts of his total behavior rather than merely mechanical repetitions of set drills to be performed upon command. Therefore, the training is designed for progressive learning of the application of separate skills with culmination in a six-hour practical field exercise over a "Patrolling Course" in which emphasis is placed on diagnosis of situational requirements and proficiency in executing courses of action appropriate to the situations.

The training includes eight periods of instruction for a total of 19 hours, to include six hours of practical exercise in the field as well as other classroom practical exercises.

Human Maintenance

Human Maintenance in SIAF operations is a responsibility for both leaders and individuals and, in addition, there is an emphatic requirement for team responsibility—the

responsibility of all individuals to and for all other members of the unit. To inculcate these responsibilities in all personnel, the approach taken in this Program Description is to present all instruction from the perspective of the SIAF leader. By this means, each individual, in addition to learning the fundamentals of Human Maintenance, is trained to recognize and assume his responsibilities to the team in this area.

The scope of the training covers personal hygiene and field sanitation; the maintenance of effective, minimal combat loads; water supply and consumption; combat feeding and nutrition; sleep requirements and the effects of sleep loss; prevention of malaria; prevention and treatment of motion sickness; recognition and prevention of combat exhaustion; maintenance of vigilance under fatigue and stress; the control of fear and panic; the orientation, assignment, and guidance of replacements; and care of the dead. Care of the wounded was not included because a separate Program Description (Self-Aid, First Aid, and Evacuation) will cover this material.

The training consists of four periods of instruction, including conferences, demonstrations, and practical exercises in decision-making. Total time for the training is seven hours. The basic knowledge to be provided in the training prescribed in this Program Description is to be supplemented by continual emphasis and practical instruction in integrated tactical training modules, for example, Patrolling, to be developed in Phase II.

Tracking

The development of genuine expertise in tracking is largely a matter of extensive practice in the field. The protracted training required for the development of expert tracking skills was not feasible for the time available. Therefore, the approach taken in this Program Description was to train personnel mainly in those skills that would be most particularly required for SIAF operations. Tracking knowledges and skills are required in SIAF operations for two major purposes: (a) the detection and interpretation of encountered trail signs, and so forth, for intelligence reporting purposes, and for information concerning the proximity of enemy forces, in order to avoid detection or ambush, and (b) the use of anti-tracking measures to avoid detection by enemy forces. The ability to follow a trail across country is required to a lesser extent and, accordingly, training for this skill received much less emphasis.

The prescribed training places heavy emphasis upon practical exercises designed to introduce trainees to common trail signs and to teach them to detect, identify, and interpret the signs in progressively more complex situations oriented toward the two purposes described above. Some basic training in cross-country tracking is provided, but it is recognized that the level of proficiency to be developed solely in this Program Description is moderate.

The training consists of eight periods of instruction, including eight hours of practical field exercises. Total time for the training is 17 hours.

Communications

The Communications Program Description prescribes training that is specifically designed to provide a working knowledge in the use of all types of communication normally used in a SIAF. The types include all appropriate intra-patrol (visual, tactual, sound, radio) and external (radio, visual) means of communication. Intra-patrol and external means were combined in one module in order to provide a more complete and efficient presentation of communications requirements.

The training is oriented toward the special communications requirements of a SIAF and, accordingly, includes only those activities and equipment found to be appropriate for SIAFs. For example, training is prescribed in the use and maintenance of only three basic types of radio that were found to be used in SIAF units. On the other hand, the

Program Description prescribes that a higher level of proficiency must be attained than normally required for conventional operations because of the critical importance of communications to the effectiveness and survival of SIAF units.

The instruction builds on communications training which all personnel would have received prior to entrance into the SIAF program and, therefore, proceeds rapidly to more advanced material with practical exercises at appropriate points. In most of the instruction, participants work in small groups under the close supervision of an instructor who makes "on-the-spot" corrections, evaluates each student's performance, and provides remedial training where required.

The training consists of five periods of instruction, with a total of 18 hours, including 12 1/2 hours of practical exercises.

DISCUSSION

The work accomplished in Phase I provides a foundation for the complete development of selection and training programs in later phases of the project. In addition, the systems analysis also provided information which has significant implications for later work on selection and training, as well as for other projects concerned with SIAF.

IMPLICATIONS FROM MISSION ANALYSES

The first implication, derived from the mission profiles, is that selection and training procedures should focus upon small (four to eight individuals), specially trained teams which can be used separately or in combination to conduct missions. Operations conducted by larger (platoon or larger) elements of conventional units, while occasionally occurring, should not be considered a determining variable for selection and training purposes.

A second implication is that SIAF personnel must be selected and trained so as to possess the capability for performing within the full range of distances, from those very near to a parent unit to those up to 300 kilometers from friendly bases. The data collected indicate that, currently, the middle area (6,000 to 30,000 meters) is the most common site of SIAF operations. However, a different set of conditions might call for frequent SIAF operations at all distances up to 300 kilometers or farther. Furthermore, selection and training procedures should be generally applicable and, accordingly, should provide for the full range of potential SIAF operations.

A third implication is that the small size of the usual SIAF unit suggests that reconnaissance—the observing and reporting of information—should probably be considered to be the principal role of a SIAF. This focusing of attention upon a particular activity does not in any way imply that SIAF units cannot nor will not undertake other types of missions. For example, ambushes of small enemy units by small friendly forces have been used successfully in Vietnam. However, the normally small size of SIAF units precludes contact with anything but small hostile forces and, accordingly, reconnaissance appears to be the indicated principal role. This identification of a principal role is made only to emphasize an activity which should receive particular attention in selection and training.

IMPLICATIONS FROM TASK ANALYSES

A major conclusion from development of Activity Areas is that most areas are common to all jobs and all types of missions. Reasons for commonality among jobs is understandable when it is recognized that the great majority of SIAF units, as shown by the data, will consist of four to eight men. In such small teams, both efficiency and effectiveness require that all team members be capable of performing the full range of duties and that, for most missions, specialists who are qualified in only one skill cannot be tolerated because of the possibility of casualty and the resultant negative impact upon mission accomplishment. Two exceptions that may be somewhat frequent are the Medical Specialist, which all teams do not use, and Radiotelephone Operators who are trained in CW Communications, which most teams also do not use routinely.

Commonality of activities across mission types is somewhat more difficult to explain; however, the reasons appear to be localized in two characteristics of the data that were analyzed. The first is due to the fact that most SIAF users are ground-combat services and most missions, except for insertion and extraction, involve predominantly ground activities. Because of this fact, most required activities are similar. Only naval units indicated any significant activities concerned with water and boats.

The second reason is related to insertion/extraction methods shown by the data as currently used. In the data studied, approximately 95% of insertions and extractions were accomplished by one method—helicopters—and, accordingly, a factor that has potential for being a most sensitive differentiator between mission types did not, in fact, discriminate very much in the situations that supplied most of the operational data. Nevertheless, many units maintain, or, at least, advocate, capabilities for insertion by other methods. Therefore, method of insertion and extraction is a factor that is common to all or most missions at present but which could become unique in the future because of changed environmental or operational conditions. For this reason, Activity Areas such as Water Procedures and Airborne Procedures were included.

The Task Inventories that were developed will serve as the point of departure for much of the later work on both selection and training procedures. From the inventories, knowledges and skills will be derived and standards of performance will then be established. These data will provide the base for determining selection requirements. In addition, they will be the principal source for allocation of content to the various Program Descriptions. In this regard, however, it cannot be assumed that training modules will correspond completely with the Task Inventories. After knowledges and skills have been derived from the inventories, they will be grouped, classified, and allocated to modules in what is judged to be the most efficient and effective configuration. Although it is likely that the final products will, for the most part, cover areas similar to those included in the Task Inventories, exact correspondence cannot be assumed.

PROGRAM DESCRIPTIONS FOR IDENTIFIED CRITICAL AREAS

The Program Descriptions in Identified Critical Areas prescribe training that was specifically designed to meet SIAF requirements. Administration of the training will result in levels of proficiency significantly higher than those usually found in conventional units and in most specialized units. The detailed analysis of the SIAF as a system and the systems engineering of the training modules result in products, each part of which is designed to achieve specific objectives that are based upon actual operational requirements.

Because the training is systematically engineered to achieve specific objectives, adherence to the recommended procedures will obtain the most effective results. Each Program Description contains all of the information, guidance, and references needed for the development of lesson plans and for conduct of the training. When used as prescribed, the Program Descriptions provide an adequate basis for development and conduct of efficient, economical, and effective training.

APPENDICES

Appendix A
U.S. AND ALLIED INSTALLATIONS VISITED
BY HumRRO PERSONNEL

1. U.S. Army Mountain Ranger Camp, Dahlonega, Georgia.

2. Headquarters, U.S. Army Combat Developments Command, Fort Belvoir, Virginia.

3. Headquarters, U.S. Marine Corps Development and Education Command, Quantico, Virginia.

4. U.S. Army Special Forces Elements, Fort Bragg, North Carolina.

5. U.S. Army Jungle Operations Training Center, Fort Sherman, Panama Canal Zone.

6. Vertex Corporation, Kensington, Maryland.

7. Defense Systems Laboratory, TRW Systems, Los Angeles, California.

8. Headquarters, Australian Army, Canberra, Australia.

9. U.S. Army Standardization Group, Canberra, Australia.

10. Headquarters, Special Air Service Regiment, Perth, Australia.

11. 2 Commando Company, Melbourne, Australia.

12. U.S. Army Standardization Group, United Kingdom, London, Great Britain.

13. United Kingdom Personnel Research Establishment, West Byfleet, Great Britain.

14. Headquarters, Special Air Service Group, London, Great Britain.

15. Parachute Regiment and Airbourne Forces Depot, Aldershot, Great Britain.

16. Royal Marine Infantry Training Center, Exmouth, Great Britain.

17. Department of Specialized Training, U.S. Army Military Police School, Fort Gordon, Georgia.

18. U.S. Navy Special Warfare Group Atlantic, Little Creek, Norfolk, Virginia.

Appendix B

INTERVIEW OUTLINE USED TO DETERMINE CURRENT PRACTICES OF SMALL INDEPENDENT ACTION FORCES (SIAF)

OUTLINE FOR UNIT ORGANIZATION

I. Identification of parent organization.
    a. Chain of command down to specific unit.
    b. Organization of specific unit (unit means Special Forces, etc.) including mission. (Get TOE)
    c. Organization of sub-unit and relationships between sub-units (such as A team, B team). (Organization chart)
    d. Do they stay as a team (as opposed to retailoring)?
    e. Historical data on reasons for establishment of unit and sub-units. (Why established?)
    f. General location and type of environment (unclassified) where sub-units are operating and prepared to operate (for example, world-wide-tropical, Africa-desert). (For what are they training?)
    g. Anticipated changes in organization structure (including reasons for). (Or need for change—desired change—what would you do if you could?)
II. Organizational philosophy on personnel (elite unit—only a few are qualified for—or, with proper training and motivation, can average military personnel be used?).

OUTLINE FOR TRAINING

I. Types of formal training programs.
    a. DA/CONARC (NAVY HQ) prescribed or lower level.
    b. POI/Lesson Plans or instructor develops his own pitch based on subject designation. (*Get copies*)
    c. Individuals trained by trainer group or by own cadre.
    d. Do people come in with special skills?
    e. Special skill training or general (core curriculum) military training. (Do trainees get list of VN tips?)
    f. Any special *team* training?
    g. How is reaching course objectives measured (formal test, cadre comments, etc.—*get copies*). How is failure recognized and measured?
    h. Duration of program, size of classes, number and type of instructors per class.
    i. What use is made of other training from other service schools?
II. Types of informal (within-team) training programs (after formal program). (Prescribed versus add-on)
    a. Who conducts?
    b. Teaches basic or advanced skills or both (get list).
    c. Amount of time devoted to it.
    d. Any local (informal) training literature. (Get copy)
    e. Why do they think an informal program is needed?
III. Training facilities.
    a. Type and extent (local or other areas).
    b. School provides areas or unit has to find areas.

c. Any special facilities (parachute towers, water) required? How get around its lack?

d. Source of training aids.

OUTLINE FOR SELECTION OF PERSONNEL

I. Types of formal selection programs.
   a. DA/CONARC prescribed or local. (Get copy, if former).
   b. Tests administered before or after arrival at unit.
   c. Does unit training weed out (prescribed attrition rate) or do most graduate?
   d. Any correlation between selection and subsequent performance?
   e. Do selection procedures need to be modified?

II. Type of informal selection programs.
   a. What kinds (review of records, conferences, informal reports, etc.)?
   b. Does this need to be modified?

III. How is selection used?
   a. Proficiency tests (pencil-and-paper or by doing, e.g., pro pay). (Get copy).
   b. Physical tests (medical).
   c. Age limitations.
   d. Performances required (any specific performance tests—six-minute mile).
   e. Need special MOS to apply (receive special MOS after graduation)?
   f. Looking for military generalist or specialist.
   g. Any emphasis on psychological selection?
   h. Volunteer or other?
   i. Satisfied with current selection criteria?
   j. How is failure of selection criteria recognized and measured?

OUTLINE FOR MISSION PROFILES

I. Types of missions (A, B, etc.).
   a. Frequency (additive to 100% for a unit).
   b. Objective for each type of mission.
   c. Source of mission? Who generates and assigns? Any paper work?
   d. Anticipated threat.

II. Personnel involved in specific missions.
   a. Ranks.
   b. Positions.
   c. Responsibilities. (Tasks—get list—for each person)
   d. Indigenous personnel used in unit.

III. Equipment (including weapons). Get list (including, e.g., sensors, position locators).
   a. Personal.
   b. Unit.
   c. Supporting (from parent or other units).

IV. Environment.
   a. Terrain.
   b. Weather.
   c. Variability from one area to another. Unit's ability to operate across all variations.
   d. Relationship with indigenous population.

V. Characteristics.
   a. Distance.
   b. Duration.
   c. Type of route (linear, circular, etc.).

     d.   Type of movement (continuous, stop and go, etc.).
     e.   Method of insertion/extraction.
VI.   Event Sequence.
     a.   Movement to objective.
     b.   Actions at objective.
     c.   Movement back to base.

Appendix C

MISSION PROFILE OUTLINE

I. PURPOSE
   A. Mission
      1. Combat
      2. Reconnaissance
      3. Civic Action (Instruction/Leadership)
      4. Target Acquisition
   B. Source of Mission (Battalion S2, Task Force Commander, etc.)
   C. Information Reported Back To
      1. Same as source
      2. Different from source
      3. Whom
   D. Type of Threat
II. PERSONNEL
   A. Number
   B. Ranks
   C. Title (Team Leader, Scout, etc.)
   D. Additional responsibilities (e.g., Medic is also pace man and carries an area weapon)
   E. Team integrity
   F. Formations
      1. By day
      2. By night
   G. Use of Indigenous Personnel
      1. Yes
      2. No
      3. How used
   H. Use of Reaction Forces
      1. Yes
      2. No
      3. How used
III. EQUIPMENT
   A. Organic (includes approximate weight of individual loads)
   B. Supporting (all forms, including artillery, helicopters, TAC air, etc.)
IV. ENVIRONMENT
   A. Location (Delta, Coastal Plains, Highlands, other)
   B. Terrain (e.g., thick jungle, rice paddies)
   C. Weather (includes presence of any condition that might hinder use of aircraft or vehicles)
   D. Relation with indigenous population (friendly, suspected hostile, confirmed hostile, etc.)
V. PATROL CHARACTERISTICS
   A. Distance
      1. To insertion point
      2. Moved after insertion

B. Duration

C. Route (straight-line, zig-zag, on or off trails, avoid or use villages, etc.)

D. Movement (continuous, stop and go, patrolling schedule, special pattern to cover an area, size of area of patrol responsibility, use of contact drills, etc.)

E. Communications (type of network, use of radio relay, special antennas, schedule of broadcasts, in code or in the clear, reaction to loss of communication, etc.)

F. Insertion/Extraction (insertion procedures, deception, Landing Zone preparation, waiting time, etc.) (extraction procedures, emergency and routine, step in aircraft or lifted by rope, etc.)

Appendix D

A SUMMARY OF TRAINING CURRENTLY PROVIDED IN SUBJECTS RELATED TO IDENTIFIED CRITICAL AREAS

This Appendix contains the hours of instruction presented in prior training and other related courses in the Identified Critical Areas listed below. It also shows the level of competence achieved by the course and total course hours. Hours shown are only those specifically allocated to the subjects. In all cases, many more hours are included on an integrated basis in field training.

Program Description

Number	Subject
1	Land Navigation
2	Delivery of Indirect and Aerial Fire Support
3	Use of Camouflage, Cover, Concealment and Stealth
4	Human Maintenance
5	Tracking
6	Communications

No. 1—Land Navigation

Type of Course	Hours of Instruction	Level of Competence[a]	Total Course Hours
Prior Training			
Advanced Individual (AIT) for Light Weapons Infantryman	21	NL	532 (9 wks)
SIAF-Oriented			
MACV Special Forces Recondo	16	WK	264 (3 wks)
82d Airborne Division Recondo	47	NL	328 (3 wks)
Special Forces Weapons Course			
Phase I	39	WK	
Phases II and III	0	NL	1441 (20 wks)
LRRP Co. (ATP 7-157)	25	NL	1670 (33 wks)
SEALs (Pre-deployment)	9	NL	5 weeks
Rangers (USAIS)	35	WK	1050 (9 wks)
Australian SAS Cadre	29	NL	284 (34 days)
Conventional			
NCOC 11B40 (Infantry)	35	WK	717 (12 wks)
NCOC 11C40 (Indirect Fire)	31	WK	548 (12 wks)
OCS (Infantry)	39	WK	1228 (23 wks)

[a]Level of Competence: WK—Working Knowledge, NL—None Listed

No. 2—Delivery of Indirect and Aerial Fire Support

Type of Course	Indirect		Aerial		Total Course Hours
	Hours	LOC[a]	Hours	LOC[a]	
Prior Training					
Advanced Individual (AIT) for Light Weapons Infantryman	4½	NL	½	NL	532 (9 wks)
SIAF-Oriented					
MACV Special Forces Recondo	3½	WK	5	WK	264 (3 wks)
82d Airborne Division Recondo	5	NL	3	NL	328 (3 wks)
Special Forces Weapons Course					
Phase I	2		4	WK	
Phase II	11	Q	0		
Phase III	2		2	Q	1441 (20 wks)
LRRP Co. (ATP 7-157)	18	NL	0	NL	1670 (33 wks)
Rangers (USAIS)	2	GK	0	NL	1050 (9 wks)
SEALs (Pre-deployment)	← One week reported →				5 weeks
Australian SAS Cadre	← None Listed →				34 days
Conventional					
NCOC 11B40 (Infantry)	23	WK	3	WK	717 (12 wks)
NCOC 11C40 (Indirect Fire)	46	WK	3	WK	548 (12 wks)
OCS (Infantry)	16	WK	5	GK	1228 (23 wks)

[a]Level of Competence (LOC): GK—General Knowledge, WK—Working Knowledge, Q—Qualified, NL—None Listed

No. 3—Use of Camouflage, Cover, Concealment, and Stealth

Type of Course	Hours	Level of Competence[a]	Total Course Hours
Prior Training			
Basic Combat Training	3	NL	6 wks
Advanced Individual (AIT) for Light Weapons Infantryman	2	NL	532 (9 wks)
SIAF-Oriented			
MACV Special Forces Recondo	← None Listed →		264 (3 wks)
82d Airborne Division Recondo	← None Listed →		328 (3 wks)
Special Forces Weapons Course	← None Listed →		1441 (20 wks)
LRRP Company (ATP 7-157)	6	NL	1670 (33 wks)
SEALs (Pre-deployment)	1	NL	5 wks
Rangers (USAIS)	← None Listed →		1050 (9 wks)
Australian SAS Cadre	7	NL	468 (34 days)
Conventional			
NCOC 11B40 (Infantry)	4	WK	717 (12 wks)
OCS (Infantry)	4	WK	1228 (23 wks)

[a]Level of Competence: WK—Working Knowledge, NL—None Listed

NOTE: Many of the courses listed above included training on individual camouflage and stealth in other instruction such as Patrolling.

No. 4—Human Maintenance

Type of Course	Hours	Level of Competence[a]	Total Course Hours
Prior Training			
Basic Combat Training	2	NL	8 weeks
Advanced Individual (AIT) for Light Weapons Infantryman	10	NL	532 (9 wks)
SIAF-Oriented			
MACV Special Forces Recondo	4	NL	264 (3 wks)
82d Airborne Division Recondo	17	NL	328 (3 wks)
Special Forces Weapons Course	2	WK	1441 (20 wks)
LRRP Co. (ATP 7-157)	54	NL	1670 (33 wks)
Rangers (USAIS)	8	WK	1050 (9 wks)
Australian SAS Cadre	2	NL	468 (34 days)
Conventional			
NCOC 11B40 (Infantry)	2	WK	717 (12 wks)
OCS (Infantry)	5	WK	1228 (23 wks)

[a]Level of Competence: WK—Working Knowledge, NL—Not Listed

Note: Hours listed are taken primarily from personal hygiene, field sanitation, and survival periods. The leadership aspect of Human Maintenance must also be considered as contributing heavily, but specific hours were not identified.

No. 5—Tracking

Type of Course	Hours	Level of Competence[a]	Total Course Hours
Prior Training			
Advanced Individual (AIT) for Light Weapons Infantryman (Recognition of enemy weapons by sound)	1	NL	532 (9 wks)
SIAF-Oriented			
Australian: SAS Cadre	2	NL	468 (34 days)
Visual Tracking Course	88	NL	88 (11 days)
U.S. Army Military Police School Visual Tracker Course	439	WK	439 (6 wks)
Rangers (USAIS)	Integrated in Fla. Phase	NL	1050 (9 wks)
Conventional			
NCOC 11B40 (Infantry)	8	NL	717 (12 wks)
OCS (Infantry)	8	NL	1228 (23 wks)

[a]Level of Competence: WK—Working Knowledge, NL—Not Listed

Note: Only those courses listed had tracking hours that could be identified.

No. 6—Communications

Type of Course	Hours	Level of Competence[a]	Total Course Hours
Prior Training			
Advanced Individual (AIT) for Light Weapons Infantryman	12	NL	532 (9 wks)
SIAF-Oriented			
MACV Special Forces Recondo	9	WK	264 (3 wks)
82d Airborne Division Recondo	6	NL	328 (3 wks)
Special Forces Weapons Course			
Phase I	3	WK	
Phase II	0	NL	
Phase III	8	WK	1441 (20 wks)
Special Forces CW Operator			
Phase I	3		
Phase II (All commo)	943	Q	
Phase III	8		2008 (27 wks)
LRRP Co. (ATP 7-157)	122	NL	1670 (33 wks)
(Includes 80 hrs. CW)			
Rangers (USAIS)	0	NL	1050 (9 wks)
SEALs (Pre-deployment)	2	NL	5 weeks
Australia			
SAS Cadre Course	13	NL	468 (34 days)
SAS Commo Specialist	296	NL	296 (25 days)
Conventional			
NCOC 11B40 (Infantry)	23	WK	717 (12 wks)
NCOC 11F40 (Opns & Intelligence)	29	WK	587 (12 wks)
OCS (Infantry)	29	WK	1228 (23 wks)

[a]Level of Competence: WK—Working Knowledge, Q—Qualified, NL—None Listed

Appendix E

TYPICAL TASK INVENTORY (AIRMOBILE PROCEDURES)

Task Required of SIAF Members

Airmobile Procedures

a. Upon receipt of a warning order for a SIAF mission involving insertion by helicopter, study the mission to ensure understanding, make a map reconnaissance, study the intelligence information available at the Tactical Operations Center (TOC) or Combat Operations Center (COC), and make an estimate of the situation. Plan and coordinate the aerial reconnaissance. Designate SIAF team members to participate in the reconnaissance and assign tasks to be completed by the remainder of the team. Ensure that the aviator(s) flying the reconnaissance mission will fly the insertion mission. Base the route to be flown upon mission requirements, as coordinated with the aircraft commander(s), with due attention to avoiding action during the reconnaissance flight that might forewarn the enemy of the insertion. Record the route to be flown, including headings and checkpoints, to facilitate map-terrain association during the reconnaissance flight. Brief the air crews on the objectives of the reconnaissance and enlist their aid as observers. Assign specific reconnaissance subtasks to accompanying SIAF team members if necessary.

b. Conduct an aerial reconnaissance based upon SIAF mission requirements. In conjunction with helicopter aviators, air crew members, and SIAF team members, select *primary* and *alternate* insertion landing zones (LZs), approaches to LZs, landing points, and departure routes for dismounted movement from the insertion LZs. Reconnoiter the area of operations (AO) and the objective area to satisfy mission demands with due attention to dismounted movement routes, availability of cover and concealment, observation and fields of fire, enemy positions or suspected positions, key terrain, habitated areas, and the appearance of indigenous personnel (possibly LZ watchers, trail watchers, or guerillas), the planning and registration of indirect supporting fires, location and usefulness of tentative extraction or reinforcement LZs, easily identified checkpoints to aid navigation, and evasion and escape routes. Plan and coordinate deceptive measures, e.g., false landings and low-level flying techniques. Review or establish procedures for abortion prior to landing and for gunship cover to permit immediate extraction if contact occurs at or near the LZ immediately after landing. Debrief assistant observers and fix procedures as required with the aircraft commander(s) for the insertion. Prepare landing manifests, including blood types, and overlay showing planned fires, general movement routes, checkpoints, and escape and evasion routes (one document).

c. Based upon orders and instructions from the parent unit and an aerial reconnaissance, formulate and issue the operations order for a SIAF mission involving insertion by helicopter; use of armed helicopter escorts to the LZ; use of armed helicopters, close tactical air support, artillery, and naval gunfire support throughout the mission; a reaction force on ground alert; fixed-wing aircraft on station for radio relay, fixes, and emergency resupply; and helicopters on ground alert for medical evacuation, extraction, and relocation/resupply.

d. Prepare for, inspect, and rehearse as required for a helicopter insertion to support a specific SIAF mission with requirements for insertion from a hovering helicopter by rapelling or by use of the trooper ladder. (See pars. l and m, below).

e. Plan, rehearse, supervise, and reduce to SOP the helicopter loading, in-flight responsibilities and in-flight behavior of team members, emergency procedures (e.g., ditching, emergency landing), visual reconnaissance enroute, identification and visual reconnaissance of the LZ on final approach, signal to abort, exit of the helicopter on touchdown, team movement to clear the LZ, extraction in the event of contact immediately after insertion, establishment of communication with the escort aircraft and the base immediately after insertion, accurate establishment of the team location (fix) by the escort aircraft, and release or notification of the departure of escort aircraft.

f. Abort the insertion at the primary LZ to evade enemy identified on the ground within effective range of the touchdown point, i.e., use a prearranged signal to the aircraft commander to abort. Anticipate signal to abort by the aircraft commander on the same basis or upon noting hazards to landing (wires, poles, etc., placed by the enemy) not noted during the reconnaissance. Notify team members and prepare to land at the *alternate* LZ. If the landing must be aborted at the alternate LZ, confer with the aircraft commander toward insertion at any LZ which is tactically useful for the accomplishment of the assigned mission.

g. Upon disorientation or need for confirmation of the dismounted SIAF team's location, request a fix from supporting aircraft via radio to the base station. If radio contact with the base station is lost, anticipate the appearance of a search aircraft (usually fixed-wing) approximately over the planned patrol route. Display the *minimum* useful visual communication to establish contact between the SIAF team and the search aircraft. Avoid display of colored smoke if signal mirror or panel is adequate, thereby limiting the probability of enemy detection of the signals and location of the team. Obtain an accurate fix of the marked location by air-ground radio or by dropped message if radio is inoperable.

h. Select, reconnoiter, secure, defend, clear, and mark a useful LZ for incoming rotary-wing aircraft. Report the situation, the location of the LZ, and the need for aircraft in terms of number of personnel and estimated weight of cargo, including special needs such as albumin blood expander for casualties, or extraction to evade enemy. Use minimum adequate visual markings (signal mirror, panels, colored smoke, strobe lights, flares, etc.). Use the appropriate radio to provide a homing signal. On visual identification, provide a heading (direction in degrees) to the LZ. Designate a recommended final approach and provide useful landing instructions (e.g., designate obstacles, report wind speed and direction when no smoke is displayed, and provide information of the enemy). Use arm-and-hand signals to facilitate final helicopter touchdown. Minimize personnel and aircraft exposure time and provide protection within the limits of available organic and supporting fires. Supervise loading and signal the aviator when he is clear to depart.

i. During continuing operations within an assigned AO, locate, reconnoiter, and clear, if necessary, emergency LZs within the area to provide for emergency evacuation, resupply, and delivery of a reaction force to aid the efforts of the *combined action element* responsible for the AO. Record locations of the LZs and brief on routes to the LZs as required by continuing operations. During extended *SIAF patrols* in larger, enemy-infested AOs, record and report the location and size of LZs discovered incidentally and not previously posted for use by the parent unit.

j. Provide fragmentary orders to the parent unit to permit dispatching an airmobile reaction force to an area of enemy contact. Designate, mark, and defend an LZ, if practicable. Brief the leader of the reaction force by radio to keep abreast of the

situation enroute; protect the landing if enemy pressure permits, including use of available supporting fires; and aid in coordinating the deployment of the reaction force to bring effective fire upon the enemy. If the reaction force must land at a distance from the SIAF being reinforced and move dismounted to contact, coordinate the link-up to ensure against possible mistakenly delivered friendly fire upon friendly troops.

k. On the basis of fragmentary orders, brief one or more SIAF teams and mount a helicopter-borne reaction force. Establish communication with the team(s) to be reinforced. Land, deploy against, and bring effective fire upon the enemy in coordination with the friendly force in contact.

l. Procure, inspect, install, and employ rapelling equipment for inserting into an AO with full patrolling equipment from a hovering helicopter at an altitude of approximately 100 feet above the terrain in areas lacking useful LZs.

m. Request, install, or arrange for installation, inspect, and employ the trooper ladder for insertion or extraction by a hovering helicopter in areas lacking a useful LZ. Insert or extract via trooper ladder with full equipment. Extract recalcitrant prisoners during prisoner snatch missions. Focus due attention upon establishing security during use of the ladder and forewarn personnel against the effect of rotor downwash and static electricity, particularly when large or medium helicopters are employed.

n. Request, employ, and supervise the employment of the jungle penetrator and winch for emergency medical evacuation, evacuation of prisoners and documents, and for emergency extraction when no useful LZ is available.

o. Request, employ, and supervise the employment of the McGuire rig for emergency evacuation or extraction from areas lacking useful LZs. Obtain, fabricate, transport, maintain, and use ropes (lines), snap links, etc., as required for extraction with the McGuire rig.

List of Equipment Used in Performance of the Task

Maps, aerial photographs, flight charts, and overlays used for reconnaissance and planning.

Weapons and equipment commonly employed by dismounted SIAF members, including visual aids employed for marking landing zones and ground locations under all conditions of visibility.

Transport helicopters, medical evacuation helicopters, armed helicopters, and fixed-wing aircraft commonly used for observation and for close tactical air support.

Helicopter-mounted jungle penetrator and winch.

Trooper ladder, rapelling ropes (lines), snap links, heavy gloves, auxiliary ropes, and accessories employed in rapelling and in use of the McGuire rig.

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13. ABSTRACT

This report describes the analysis of Small Independent Action Forces (SIAF)
operational requirements, the identification of job-relevant activities of SIAF
personnel, and the development of training for certain Identified Critical Areas.
The latter are Land Navigation; Delivery of Indirect and Aerial Fire Support;
Human Maintenance and Survival; Use of Camouflage, Cover, Concealment, and Stealth;
Tracking; and Communications. The research was performed during the first phase
of a project whose objective is the development of procedures for selecting and
training SIAF personnel. The analysis has provided points of departure for the
development of knowledges and skills, performance standards, and selection and
training procedures, which are described herein.

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14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Combat Elements						
Human Factors						
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Small Independent Action Forces						